

### REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1, 3-4, 7-25, 29, and 31-37 are currently pending in this application. No new matter has been added by way of the present amendment. For instance, the amendments to claims 1, 13, 14, 29 and 33 find support at, for example, Figure 1, and paragraphs [0054]-[0056] of the publication 2004/0213706. Specifically, paragraph [0054] discloses an "outlet nozzle 2 at a point where no or practically no lumps are present", and paragraph [0056] discloses that, generally "one batchwise outlet nozzle should be enough for withdrawal of the lumps (polymer aggregates)" (see Figure 1, where the batchwise outlet nozzle is attached to collecting tank 7 and outlet nozzle 2 is attached to control valve 3). New claims 35-37 are supported by previously presented claim 1. Accordingly, no new matter has been added.

In view of the amendments and remarks herein, Applicants respectfully request that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

### Substance of Interview

Applicants thank the Examiner for the time, helpfulness and courtesies extended to Applicants' representatives during the Interview of May 27, 2010. The assistance of the Examiner in advancing prosecution of the present application is greatly appreciated. In compliance with M.P.E.P. § 713.04, Applicants submit the following remarks.

1. The 35 U.S.C. 112 rejection in the outstanding office action of February 19, 2010 (enabling support for a second outlet from the reactor) was discussed. Applicants noted that page 5, lines 24-26 of the specification disclose that "the particle agglomerates are

either withdrawn **directly from the reaction via a separate outlet** or the agglomerates are separated from the continuous flow of the polymer powder". This is preceded in the specification by lines 19-20 of page 5 which specifically state, "the present invention comprises withdrawing **and separately recovering particle agglomerates from the reactor**". Taken alone or together with figure 1 as discussed, it is clear that there is support for two outlets form the reactor in the present specification.

2. The examiner stated that he felt the current claims as written, specifically that "separately recovering particle agglomerates **from the reactor**" did not currently limit the claims to a separate outlet for the particle agglomerates **from the reactor**. However, the examiner did state that if the claims were limited as such that the present rejection based on the reference of Bernier et al. would be overcome.
3. The declaration filed November 3, 2008 was also discussed. Specifically, the reasons for which the examiner did not consider the information contained in it to be valid evidence were discussed. The examiner has relied upon "routine optimization" to reject the claim limitation "wherein the ratio between the polymer powder continuously discharged from the reactor and the polymer particle agglomerates discontinuously withdrawn is in the range of 1:1 to 10,000:1". However, in order to optimize the range of a reference to come to the "routine optimized" claimed range necessarily means the reference's range must include the optimized range. The examiner states in the rejection that, "the examiner has a reasonable basis that the claimed ratio is generically encompassed [by] the invention of Bernier et al." However, the examiner has shown absolutely no evidence or support for this "reasonable basis".

Explicitly to the contrary, Applicants' declaration shows that the actual ratio of the Bernier et al. reference, through multiple experiments, is about .0002:1, or 5000% smaller than the lowest ratio of the present claimed range of 1:1. The declaration also shows that the range of the reference would not exceed 0.01:1, or 100% less than the lowest ratio of the present claimed range of 1:1.

The Examiner stated that the present declaration was not valid because it did not provide comparative data between the reference and the present invention. However, the intent of the declaration was not to show the specific advantages of the claimed range but to provide evidence that the examiner's "reasonable basis that the claimed range is generically encompassed by the invention of Bernier et al." is **not** a reasonable basis since it is not accurate. Without evidence or reasoning to the contrary, the examiner cannot show that the claimed range is present in the Bernier et al. reference. Therefore routine optimization of the Bernier et al. reference could not be expected to result in a range that starts between 5000% and 100% higher than the capable range of the reference and extends to 1,000,000x to 50,000,000x higher than any capable range of the reference. This is clearly not routine optimization.

*Issues under 35 U.S.C. 112, 1<sup>st</sup> paragraph*

Claims 1, 3, 4, 7-25, 29 and 31-34 stand rejected under 35 U.S.C. 112, 1<sup>st</sup> paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse.

The Examiner asserts that the recitation "second outlet nozzle" and "second outlet nozzle located at the same level as the fluidized bed" are not supported by the Specification. Applicants

respectfully disagree and submit that the originally filed Specification provides sufficient support for both limitations.

As noted above, paragraph [0054] discloses an “outlet nozzle 2 at a point where no or practically no lumps are present”, and paragraph [0056] discloses that, generally “one batchwise outlet nozzle should be enough for withdrawal of the lumps (polymer aggregates)” (see also Figure 1, where the batchwise outlet nozzle is attached to collecting tank 7, and outlet nozzle 2 is attached to control valve 3).

Reconsideration and withdrawal of this rejection are respectfully requested.

Issues Under 35 U.S.C. § 102(b)

Claim 14 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Bernier et al. (U.S. 5,834,571) (hereinafter “Bernier”). Applicants respectfully traverse.

The Examiner asserts that Bernier discloses a method of producing a polymer in a continuously operated gas phase reactor, polymerizing at least one monomer in a bed containing an active catalyst and adjusting a discharge rate to withdraw a polymer product from the reactor.

The Examiner further asserts that Bernier inherently teaches (1) adjusting a discharge rate of the polymer powder so as to maintain a constant bed level during polymerization; (2) separately recovering particle agglomerates from the reactor; and (3) providing a control valve that is adjusted to provide for pulsating operation.

Applicants respectfully disagree and submit that the Examiner has failed to establish a *prima facie* case of anticipation. For anticipation under 35 U.S.C. § 102, the reference must teach each and every aspect of the claimed invention either explicitly or impliedly. Any feature not

directly taught must be inherently present. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijkkaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993).

Applicants submit that the Examiner appears to misunderstand the differences between continuous and intermittent withdrawal. During continuous withdrawal there is a **continuous, uninterrupted, flow of polymer out of a reactor** (see, e.g., US 2004/0213706, paragraphs [0024] and [0026]) (emphasis added). If the flow of polymer out of the reactor is interrupted, then the withdrawal is no longer continuous, but is rather intermittent.

In the present invention, a polymer is withdrawn from a reactor so that there is an **uninterrupted flow of polymer out of the reactor during the whole operation of the reactor** (emphasis added). When the continuous withdrawal of polymer is combined with an intermittent removal of agglomerates, the reactor **necessarily** needs to have another outlet operating intermittently (intermittent operation is described in paragraph [0008] of US 2004/0213706, as well as col. 19, lines 41 to 60 of Bernier).

The Examiner maintains his previous position that the withdrawal process in Bernier can be adjusted to run “continuously and intermittently” (see page 4, third paragraph of Office Action). Applicants strongly disagree.

The withdrawal process of Bernier can be adjusted to run **either** continuously or intermittently, **but it cannot operate both continuously and intermittently at the same time** (emphasis added). Bernier only refers to continuous withdrawal at col. 4, lines 16-17, disclosing that the polymer can be withdrawn continuously or intermittently. Figure 1 of Bernier shows that the reactor has one outlet only. Because continuous and intermittent operation are **mutually**

**exclusive** (i.e., if the outlet operates intermittently, the flow of polymer via the outlet is interrupted at some point of time and then the withdrawal is not continuous anymore) the withdrawal of Bernier cannot operate both continuously and intermittently.

The Examiner further argues that, when the process of Bernier is run intermittently, it would inherently possess a pulsating operation of the valve. However, Applicants submit that when the process of Bernier is operated intermittently, it does not withdraw the polymer continuously. As such, the process of Bernier does not anticipate the presently claimed process.

With regard to the “pulsating operation” of the outlet valve, Applicants note that this refers to continuous withdrawal and not intermittent withdrawal. As explained in the last two sentences of paragraph [0055] of US 2004/0213706, the pulsating operation consists of maintaining the control valve in its normal position, then opening it fully open for a short time and then returning it into the normal position. As the withdrawal is continuous, the valve is always open and there is a continuous flow of polymer out of the reactor. When the valve is fully opened, the flow rate increases suddenly for a short period after which it returns to normal when the normal valve position is restored. This is clearly different from the intermittent operation of Bernier (where the flow of polymer is stopped for a certain period of time).

The Examiner further argues that valve 50 would qualify as the second outlet nozzle from the reactor (see pages 4 and 5 of the Office Action). However, Applicants note that the Examiner’s assertion is incorrect. The outlet nozzle connected to valve 50 is not connected to the reactor, but is rather connected to the product removal vessel.

Bernier explicitly discloses that there is only one outlet nozzle 44 coming out from the reactor 10 (see col. 19, line 26 of Bernier). The outlet nozzle 50 is connected to the product

discharge tank 46 (col. 19, line 30) and thus cannot be used to withdraw agglomerates from the reactor (10). The outlet nozzle 50 can also not be used to withdraw agglomerates from the product discharge tank 46 because (i) it is positioned at the top of the tank, and the agglomerates would not move upwards in the discharge tank 46, and (ii) Bernier clearly discloses that said nozzle is used to release fluid (=gas) to the surge tank 62 (see col. 19, lines 36-37).

At page 6 of the Office Action, the Examiner argues that the claims as written do not require the valves to be always open. Applicants strongly disagree. All the independent claims of the pending patent application require that polymer is continuously withdrawn from the reactor. This requires either that (i) there is an outlet containing a control valve which is always open (as otherwise there would not be a continuous flow of polymer out of the reactor (the polymer cannot flow through a closed valve), and if at any time the flow of polymer is interrupted, then the withdrawal is not continuous) or (ii) there is an outlet with an open connection without any kind of valve. Thus, continuous withdrawal implicitly requires there to be an open connection from the reactor during the whole operation of the reactor.

Clearly, Bernier '571 fails to explicitly or implicitly teach each and every aspect of the claimed invention, and thus fails to anticipate the same.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

*Issues Under 35 U.S.C. § 103(a)*

Claims 1, 3, 4, 7-25, 29, 31-32 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bernier. Additionally, claim 33 stands rejected as obvious over Bernier '571 in view of Koves (U.S. 4,959,198) (hereinafter Koves '198). Applicants respectfully traverse.

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int’l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the “teaching, suggestion, motivation test” is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

As previously discussed, Bernier ‘571 fails to teach a method of producing a polymer in a continuously operated gas phase reactor as presently claimed. Bernier does not in any way teach or suggest withdrawing a polymer continuously via nozzle 44, but rather teaches that this is done intermittently. Moreover, assuming *arguendo* that Bernier disclosed continuous polymer withdrawal (a point which Applicants do not concede), the “second outlet nozzle 50” does not separately withdraw agglomerates from the reactor 10, but from the discharge tank 46. If the equipment according to Figure 1 of Bernier were used for continuous withdrawal, then the



agglomerates would be continuously withdrawn from the reactor 10 together with the polymer powder via nozzle 44 and not separately and discontinuously.

The Examiner further argues that it would be obvious to install a screen in the outlet nozzle 44 of Bernier to prevent agglomerates from entering the nozzle. Applicants respectfully submit that it would be impossible to remove agglomerates via valve 50 if the screen would prevent the agglomerates from passing through the outlet nozzle 44. The agglomerates would remain in the reactor 10, and there would be no way to remove them. It is thus evident that Bernier does not teach or suggest a step of "separately recovering particle agglomerates" as presently claimed.

Evidently, the cited references fail to teach or suggest a method as claimed. For this reason alone, this rejection is improper and should be withdrawn.

Moreover, Applicants submit that there is no rational underpinning to support the legal conclusion of obviousness, since one skilled in the art would not have been motivated to modify the references as proposed. Applicants respectfully submit that the Examiner is improperly "picking and choosing", and combining features from different, **unrelated**, embodiments of Bernier in attempts to establish the obviousness of the present rejection (for instance, the Examiner takes features which are clearly directed to the embodiment of Bernier directed to intermittent withdrawal and uses them directly in an embodiment which is directed to continuous withdrawal).

In view of the above, reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

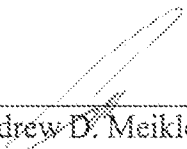
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos, Reg. No. 61,158, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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